

Health Systems Development Unit

Activities Report 2001

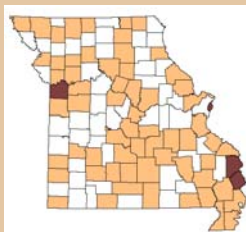


Loan Repayment

Nurse Loan

J-1 Visa

PRIMO



Healthy Communities



Center for Health Improvement

Missouri Department of Health and Senior Services

Introduction

The availability of and accessibility to health care services has been a concern of Missouri residents and their public representatives for many years. There have been several initiatives from local communities, the legislature and the Governor's office to address the need of the public for health care services. Many of those initiatives are now housed in the Center for Health Improvement at the Missouri Department of Health and Senior Services (DHSS).

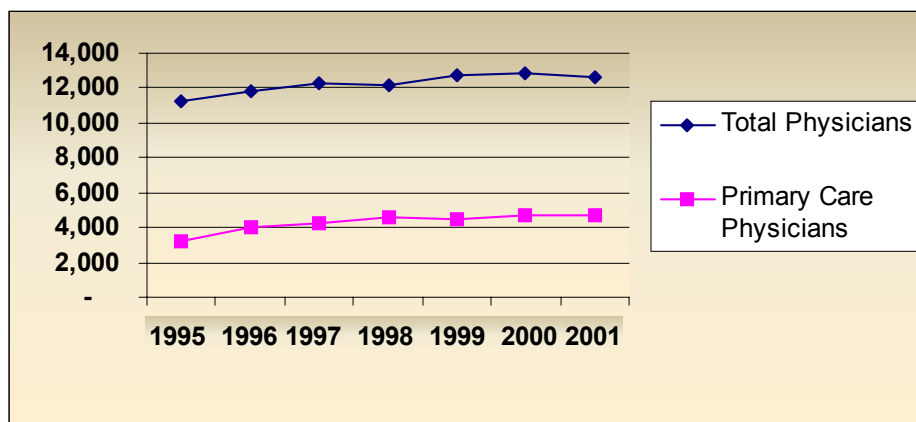
Within the Center for Health Improvement (CHI), the Health Systems Development Unit (HSDU) is responsible for the implementation, maintenance and evaluation of those initiatives dealing with access to health care services. Currently there are six initiatives in HSDU that focus on improving health outcomes in the state through recruitment, retention, systems development and quality improvement. This report will review the status of access to health care services in the state, as well as the functioning of the individual initiatives.

Health Care Access in Missouri

Overall, access to primary health care services in Missouri has improved in the past ten years. There have been increases in the number of primary care health professionals practicing in the state, and the number of community-based, non-profit health systems has increased as well.

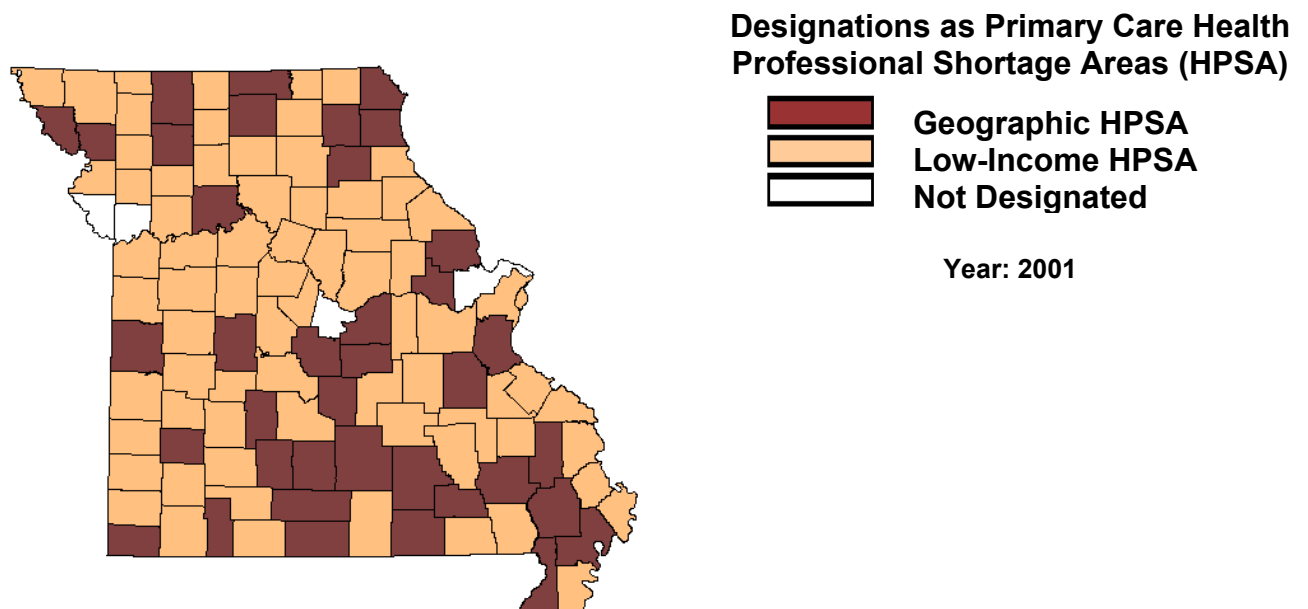
Since 1995 there has been an 11.8% increase in the number of active licensed physicians in the state. This is especially interesting as the general population increased by only 9.3% in the last decade. Even more impressive is the increase in primary care physicians. During the same time period the number of primary care (General and Family Practice, Pediatrics and General Internal Medicine) physicians increased by 49% from about 3,200 to over 4,700.

**Total Active and Primary Care
Physicians in Missouri,
1995 to 2001**



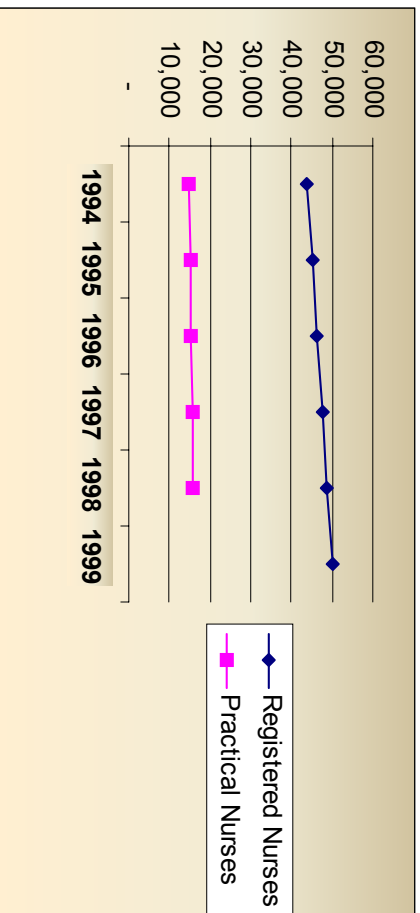
Although the number of physicians and especially primary care physicians has increased the number of federally designated Health Professional Shortage Areas (HPSA) has also increased. These seemingly conflicting facts indicate improvements in primary care access for people in general, lack of access continues for low-income citizens.

There are two different types of HPSAs, geographic and low-income. Geographic HPSAs are based on the ratio of primary care physicians to the general population, while low-income HPSAs are based on the amount of care provided to Medicaid and uninsured patients. In the past ten years the number of geographic HPSAs has decreased in Missouri by over 17%, indicating that access in general has increased. However, the need for access by Medicaid and uninsured is still unmet in many if not most areas of the state. Improved data collection and reporting systems have facilitated the designation of more counties in the state as low-income HPSAs. The Primary Care HPSA map shows the distribution of these two types of HPSAs in Missouri.



There have been increases in the number of active licensed nurses as well. Since 1995 the number of active professional and licensed practical nurses grew by about 10%. The increase in professional nurses (11%) was almost double that of the practical nurses (6%). Even with the increase, demand for nursing professionals, especially in rural Missouri, is such that it is seen as a nursing shortage. Proposed collaborative efforts by DHSS with the Missouri Hospital Association may provide more insight and intervention strategies for addressing the needs for these and other health professionals in rural areas. The chart below shows the number of active nurses in Missouri from 1995 to 1999.

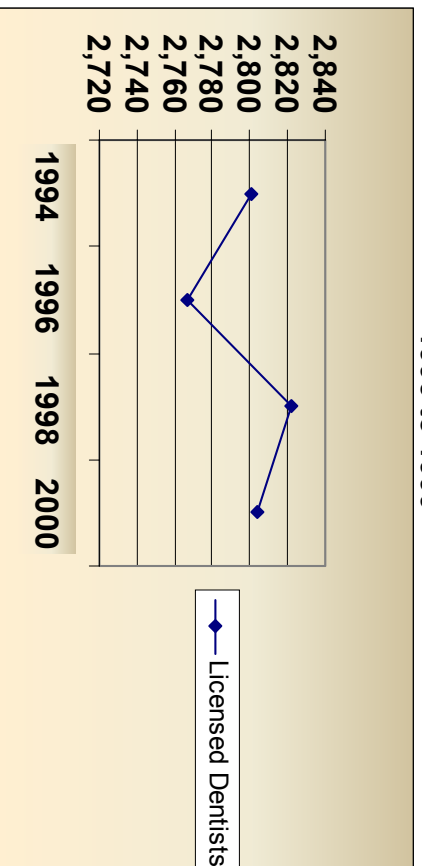
Total Active Professional and Practical Nurses in Missouri, 1995 to 1999



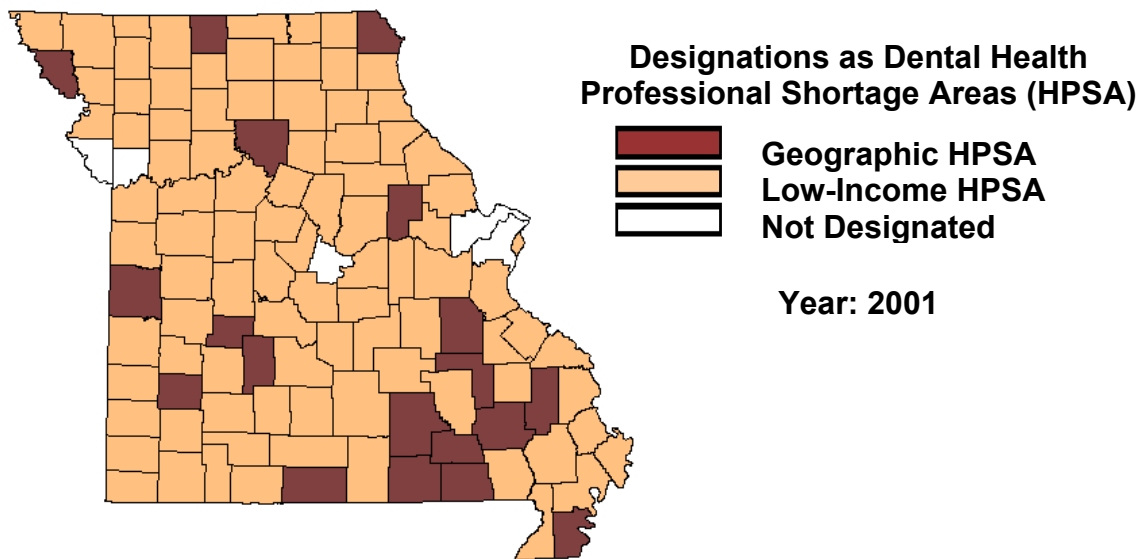
Note: Nurses are licensed for a two-year period. RNs are licensed in even numbered years and LPNs are licensed in odd years. Interim years represent midpoint in increase for the two-year period.

The number of active dentists, unlike most other health care professions, is not increasing in Missouri. The number of dentists licensed in 1994 is essentially the same as were licensed in 2000. A growing concern is that 49% of the active dentists in 2000 were 50 years old or older. Replacing these essential health care providers is very problematic. The number of retiring dentists each year is estimated at 70, while the number of new dentists is less than half that number. The chart below shows the number of active licensed dentists in Missouri.

Licensed Active Dentists in Missouri, 1995 to 1999



The number of Health Professional Shortage Areas for dentists has increased dramatically over the past five years. One reason for this is that the population in Missouri has increased while the number of dentists has remained constant. Also, the decrease of access to dental services of the general population is exacerbating the lack of access for Medicaid and uninsured individuals. Currently there are very few, or in some communities no dentists that accept Medicaid or provide a sliding fee scale. In addition, there is a statewide gap in dental insurance even among the employed. This puts dental services largely in the self-pay arena, and out of reach for many citizens. The map below shows the geographic and low-income dental HPSAs in Missouri at this time.



Access Programs and Initiatives

Several tools have been developed over the years to address the issues around health care access. The General Assembly and the Governor's office have provided funding and direction to develop and implement the incentive programs described in this report. Each program or initiative was designed to affect certain aspects of the health care access problems. These initiatives are described below in the chronological order of their implementation. In addition, a brief analysis of the impact of the activities is included with the descriptions.

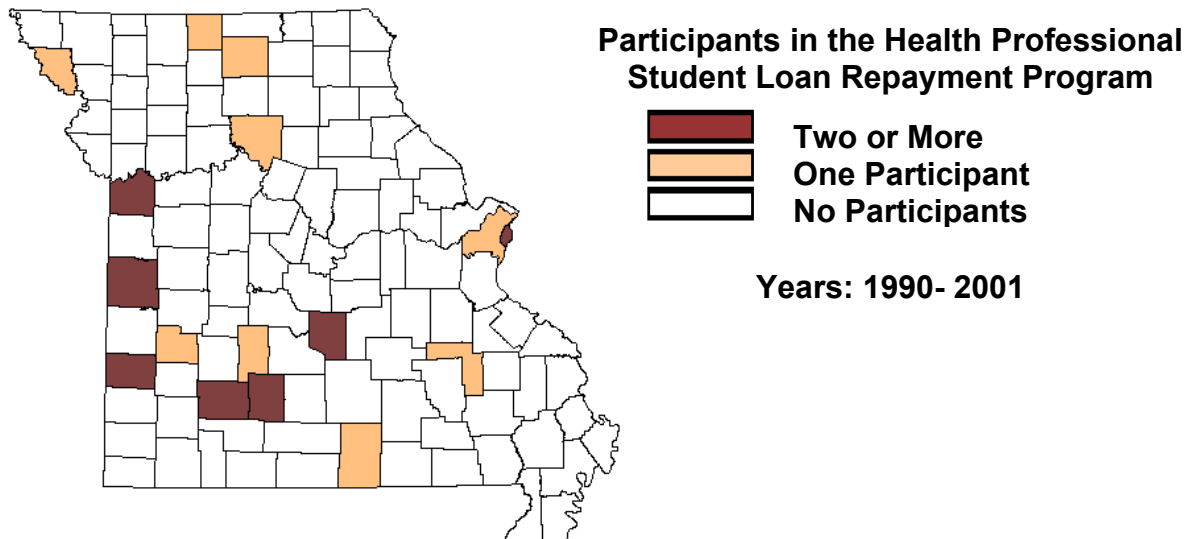
Health Professional Student Loan Repayment Program

The first loan repayment contract for the Health Professional Student Loan Repayment Program (SLRP) was made in 1990. From 1990 to 1999, eleven contracts were signed with physicians for participation in the SLRP. Of those, seven served their entire obligation (two-year minimum) in an underserved area, although all eleven remained in the state. There were two physicians whose clinics were closed or moved out of state by their employers. Two physicians defaulted on their contracts, one in Mercer County and one in Holt County.

Participation by physicians in the SLRP was limited because of competition from the National Health Service Corps. (NHSC), US DHHS also had a loan repayment program. The NHSC program provided higher reimbursement levels than the state allowed. Not only did the NHSC pay more, up to 25% more for the first two years and 75% more for years three and four, but they also paid a tax offset to the participating physicians. It was not until 1999 and 2000, when fewer participants were being selected for the NHSC loan repayment program that the SLRP became attractive to physicians. In 2000 four new physicians signed with the SLRP.

In 1997, primary care nurse practitioners were added to the program. The Missouri Professional and Practical Nursing Student Loan and Loan Repayment Programs fund provided the state's contribution for these contracts. Five Family Nurse Practitioners (FNP) contracted with the SLRP from 1997 to the year 2000. So far in 2001, five more FNPs have signed with the SLRP. Only one contracting FNP has failed to complete their SLRP contract (80% compliance).

A total of 24 health professionals have contracted with the SLRP to date. Forty-five percent of those professionals (11) have contracted in the past two years. The recent increase in interest is due to funding reductions in the NHSC program and recent changes in the program's authorizing statute, which allows the state to offer more competitive contract amounts. Another recent change in Missouri's statute will include dentists in the SLRP. There is much interest in the dental aspect of SLRP and the first contract for a dentist is being processed for a placement in Pemiscot County. The map below shows the counties where SLRP placements have been made.



The Professional and Practical Nursing Student Loan and Loan Repayment Program

One of the health professional shortage issues facing rural Missouri involves nurses. Although the total number of nurses working in the state has increased each year, the demand for nurses in rural facilities has exceeded the supply of professionals willing to work in those counties. In order to increase the number of nursing professionals in the state, the Missouri

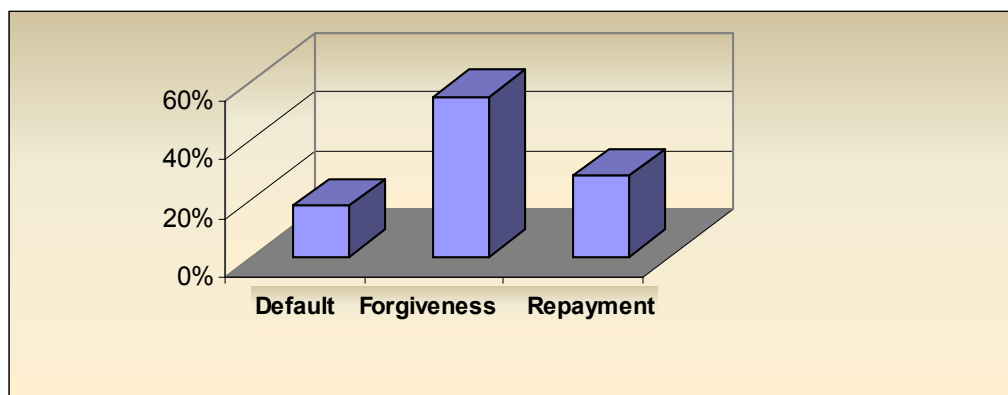
Professional and Practical Nursing Student Loan and Loan Repayment Programs were developed and initiated in 1991.

Nurses participating in the loan program are given the option of paying the loans back in cash (9.5% interest) or earning forgiveness. Forgiveness is given in exchange for four years of service at a non-profit or public institution in an underserved area of the state. Those in default are those participants who failed to either earn forgiveness or repay in cash. Collections from cash repayments or defaulted contracts are conducted in collaboration with the department's Office of the General Counsel and the Attorney General's Office. Utilization of the Attorney General's staff has increased compliance among participants in default and greatly simplified the collection process. As most of the state is now designated as underserved, forgiveness percentages will increase dramatically.

Since the inception of the program, 524 student loans have been made to Missouri nursing students. One hundred and three of those loans are to current students. Of those not attending schools, 54% have earned or are earning forgiveness of their student loans. The remaining participants have either chosen cash repayment (28%) or are in default status (17%). Over half (51%) of the nurses placed through the Missouri Professional and Practical Nursing Student Loan Program have served in rural underserved areas of Missouri.

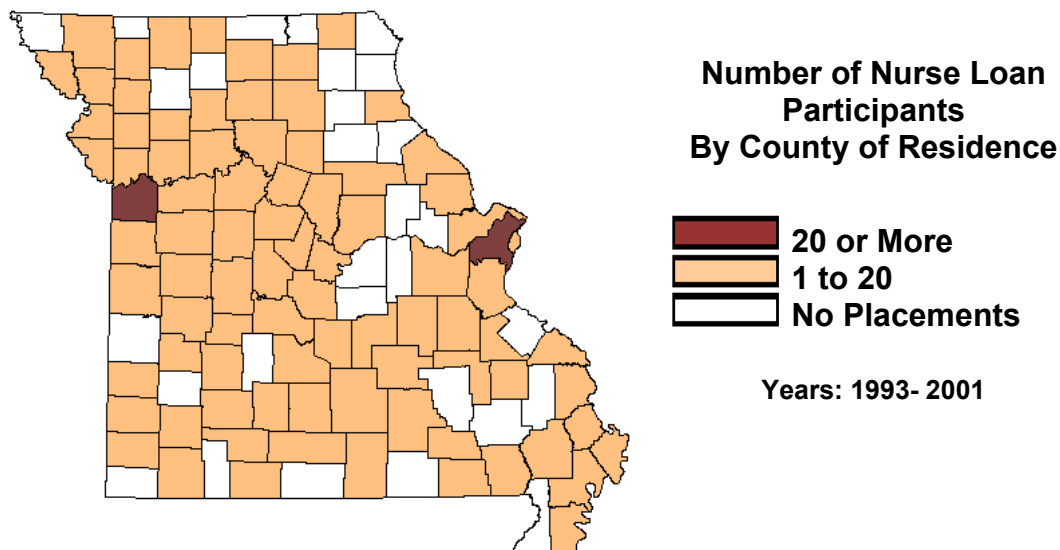
The chart below shows the distribution of participants who are in default, forgiveness or cash repayment. Changes in program procedures for state fiscal year 2003 will mirror those in other programs with higher compliance rates resulting in an increase of those in forgiveness. An example of this is to use previous participation in the program as a criterion for participation in subsequent academic years. This will result in a slight drop in the number of individuals participating in the program. However, individuals will have more incentive to earn forgiveness if their total debt is greater.

**Missouri Professional and Practical Nursing
Student Loan Program Participants
by Status. 1991 to 2001**



Selection for participation in the nurse loan program is based on individual financial need. The majority (65.5%) of the loans go to Associate Degree in Nursing (ADN) students. This is because most of the educational programs in the state are ADN programs. ADN graduates make up 80% of the nurses who have earned or are earning forgiveness and are represented by lower percentages in the repayment and default categories. Bachelor of Science in Nursing (BSN) students and Masters of Science in Nursing (MSN) students make up 17% of the program participants, but only 11% of the defaults. In fact no MSN students have gone into default to date. The Licensed Practical Nurses (LPN) and Diploma (DIP) Nursing students make up almost 20% of the total students in the program and 27.4% of the defaults. All of these issues are being presented to the advisory body established in the authorizing statute, to determine possible policy changes to increase the number of participants in forgiveness.

The following map shows the distribution of participants in the loan program according to county of residence. Residence is defined as the county identified in the application as the permanent mailing address.



The Primary Care Resource Initiative for Missouri (PRIMO)

The number of providers and the capacity of the systems of care within communities work in concert to affect access to health care. To address these issues the Missouri Department of Health and Senior Services, through private and public partnerships, developed the Primary Care Resource Initiative for Missouri (PRIMO) in 1995.

PRIMO was designed to impact various aspects of the health professional educational systems, to increase internal (Missouri) recruitment, and to increase the amount of available practitioners and services. One component of PRIMO recruits young people from rural and

underserved communities into health professional education programs in the state's colleges. These activities, in both academic and experiential areas, are meant to identify and encourage capable youths from areas of need, provide them with the tools they need to succeed in health professional education institutions, and encourage them to return to the underserved areas to practice. Since 1995 over 425 high school students have participated in academic enrichment activities (PRIMO Academies) on various state university campuses. In 1995 there was only one academy (algebra), however biology, chemistry and college prep academies were added in consecutive years.

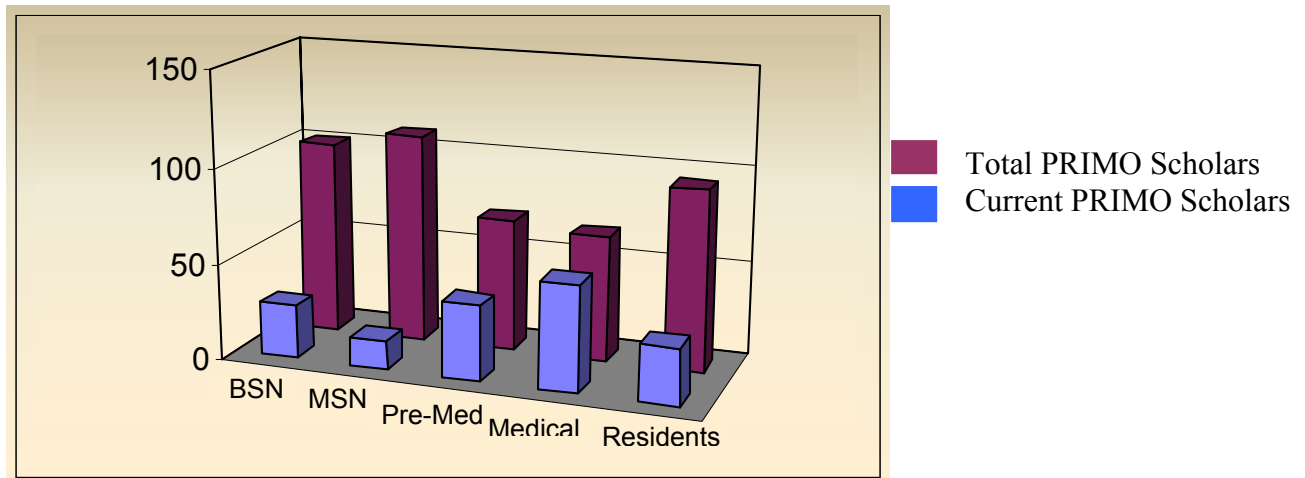
Of those students participating in the PRIMO Academies, 176 (41%) graduated from high school by the spring of 2000. A recent survey of those graduates indicated that 28% had gone on to pre-medical or medical (13%) and nursing (15%) schools. Nine percent of the graduates had entered other, allied health education program. Seventeen percent indicated they were working in another field or were enrolled in an educational program outside the health field and 57% of the graduates did not respond to the survey. In an effort to improve and expand this part of PRIMO the contractor (Missouri Area Health Education Centers or MAHEC) is restructuring the academies to provide more guidance in career path development and provision of academic enrichment services through alternative resources. This change will take effect in state fiscal year 2002.

The next aspect of the PRIMO pipeline consists of pre-admissions programs developed in two medical schools and one advanced practice nurse training program. The intent of the programs is to identify eligible undergraduate students in state colleges, with an emphasis on those identified by PRIMO activities, and to pre-admit them into medical school or the APN program. Pre-admissions is guaranteed for the individual students as long as they maintain an established academic standard and complete activities at the individual educational institutions designed to familiarize the student with the environment and the educational requirements and expectations. The PRIMO pre-admissions programs are currently funded at the Kirksville College of Osteopathic Medicine (KCOM), the University of Missouri at Columbia (UMC) School of Medicine, and the Sinclair School of Nursing at UMC. Data provided by the programs indicate an overall retention rate of 67.2% in the medical school pre-admissions programs. However, the data also show retention rates are increasing, in fact the rates for 2000 and 2001 academic years equal or exceed 90%.

Providing financial aid to health professional students, in exchange for future services, is the premise behind the next aspect of the initiative, the PRIMO Scholars. PRIMO Scholars are recruited from rural and underserved areas, with the expectation that they return to those or similar communities to practice. Additional consideration is given to minority students and participants from the earlier components of PRIMO. The students supported include pre-medical, pre-dental, dental hygienist, advanced practice nursing, and medical and dental school students. Primary care residents are also supported. Dentists and dental hygienists will be eligible for participation in July of 2002.

The distribution by discipline is displayed on the following chart. This chart shows the distribution of loans among current students/residents and among program participants since the inception of the loan program.

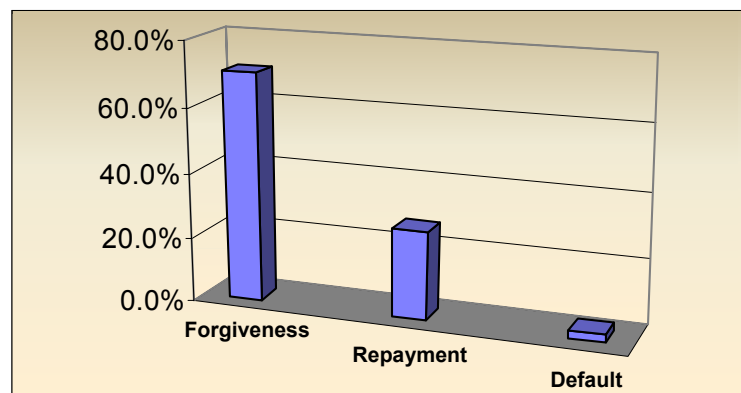
PRIMO Scholars by Discipline, 1995 to Date



As is shown in the chart, current pre-medical and medical students make up the majority (over 50%) of the total participants in their respective categories. Conversely, the number of current Scholars in the advanced practice nursing discipline is less than one-fifth of the total APN Scholars. In the early stages of the loan program, nurses made up the majority of the applicants and participants. As the program grew, pre-medical and medical student participation increased dramatically.

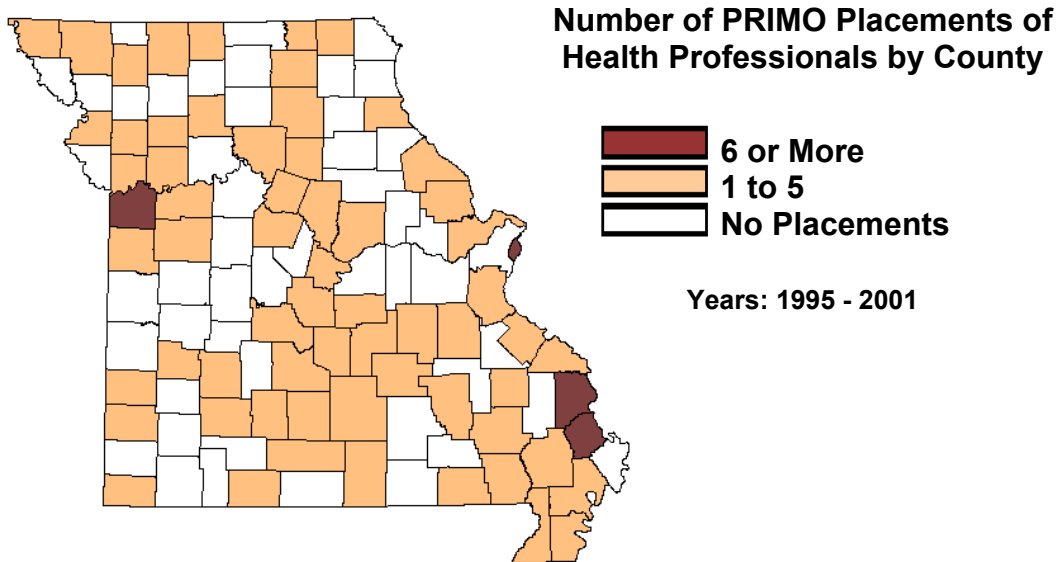
Since the inception of the loan program there have been 438 participants. As of December 2001, 272 of the participants are in practice and 167 are in educational programs. One hundred and ninety-one of those in practice (74 are physicians and 117 are nurses) are providing health care services in areas of need in Missouri. This indicates that 70% of the PRIMO Scholars have earned or are earning forgiveness.

PRIMO Scholars by Status, 1995 to Date

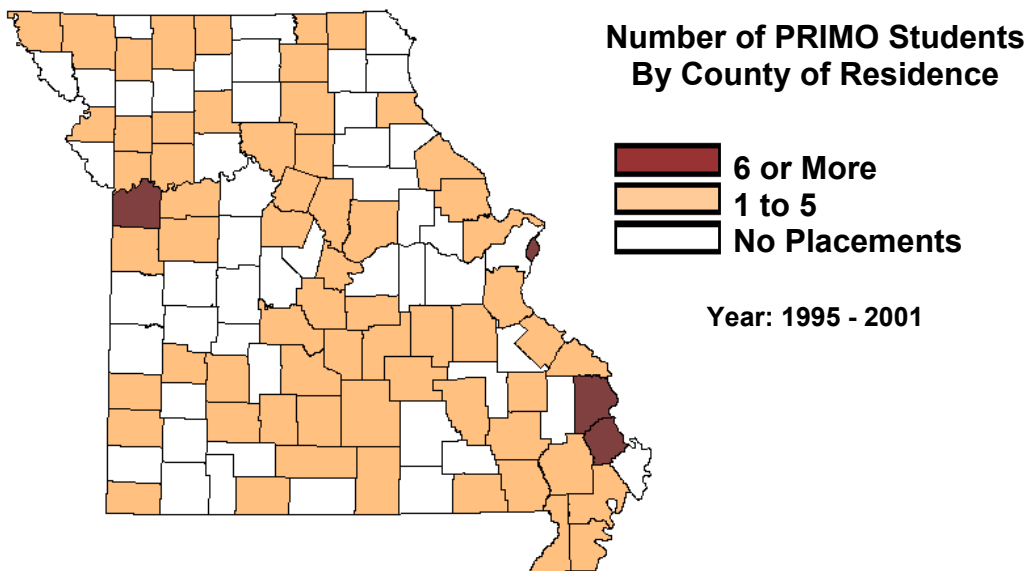


As depicted in this chart, 70.2% of PRIMO Scholars have earned forgiveness, 27.2% have repaid in cash and 2.6% have gone into default.

PRIMO Scholars are providing health care services in 66 counties around the state. The map below shows the number and county of the practicing PRIMO Scholars.



PRIMO Scholars are recruited from underserved areas around the state, the assumption being that these individuals are more likely to return to underserved areas to practice after their education is complete. The map below shows the number of Scholars by county of residence from program inception to the current academic year. County of residence is based upon the permanent address listed on the individual's initial application.

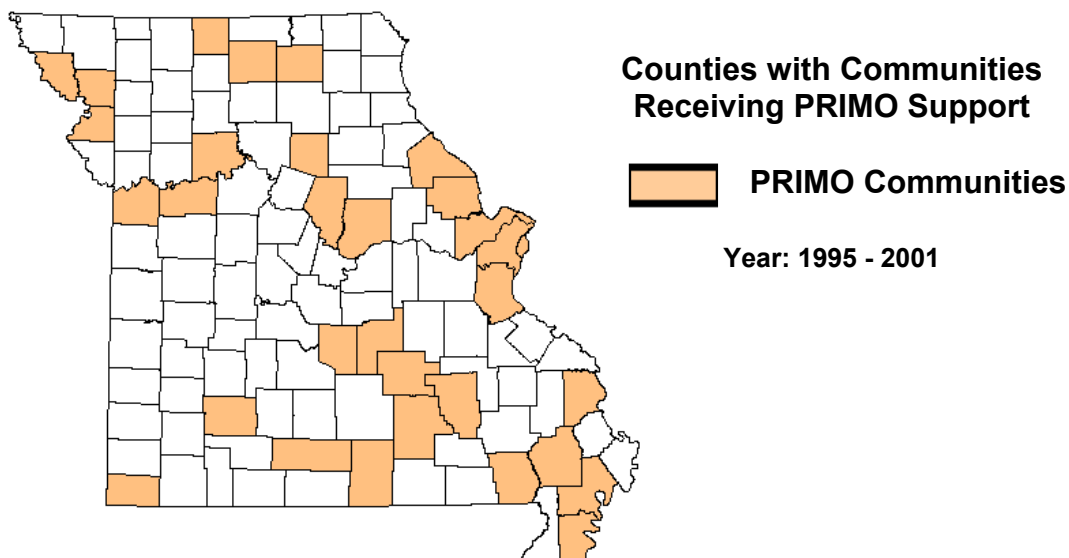


Clinical training for the PRIMO Scholars is an important aspect of the initiative at two stages of the educational process. Through contracts with the Missouri Area Health Education Centers (MAHEC) and the individual family practice residency and advanced practice nurse training programs, PRIMO provides for the clinical training of PRIMO Scholars in rural and underserved areas of the state. This is to familiarize the Scholars with these types of practice environments, increasing the potential for selection of these or similar sites as eventual practice sites.

PRIMO contracts with the MAHEC to provide clinical training opportunities for PRIMO Scholars in medical, dental and advanced practice nurse programs. This contract covers the recruitment and support of preceptors, matching of preceptors and Scholars, and living arrangements for the Scholars. PRIMO contracts with selected family practice residency programs (6) and advanced practice nurse programs (2) to allow the training institutions to develop clinics in rural and underserved communities, to provide training opportunities and to expand access to health care services to populations in need.

The next aspect of PRIMO is focused on the development of community-based systems of care in underserved areas around the state. Utilizing various health care delivery system models, communities develop primary care delivery systems to provide the services needed in their community. Communities developing community-based health care delivery systems, modeled after federally qualified health centers (FQHC) are prioritized by PRIMO. Three PRIMO communities successfully sought funding as FQHCs and two more are in process. PRIMO also facilitated FQHC expansions in eight communities. Four PRIMO communities have merged with existing FQHCs. This model allows for the replacement of PRIMO funds with federal dollars and facilitates sustainability of the health care delivery system.

PRIMO has supported developments in 33 different communities in total. The following map details the counties in which PRIMO support was used to develop additional health care services.



The final aspect of PRIMO is the placement component. Placement hasn't been consistently provided by PRIMO in the past. Program and contract staff have facilitated communication among practice sites and Scholars, but not on a consistent basis. Currently PRIMO is working in collaboration with the MAHEC and the Missouri Primary Care Association to implement the Practice Sites software in Missouri. This is a web-based application that allows anonymous matches of practitioners and practice sites. The software was developed by the North Carolina Primary Care Association and is available to DHSS free of charge. Equipment has been purchased and is in place to implement the program. Staff of the three collaborating entities are awaiting training to implement the program.

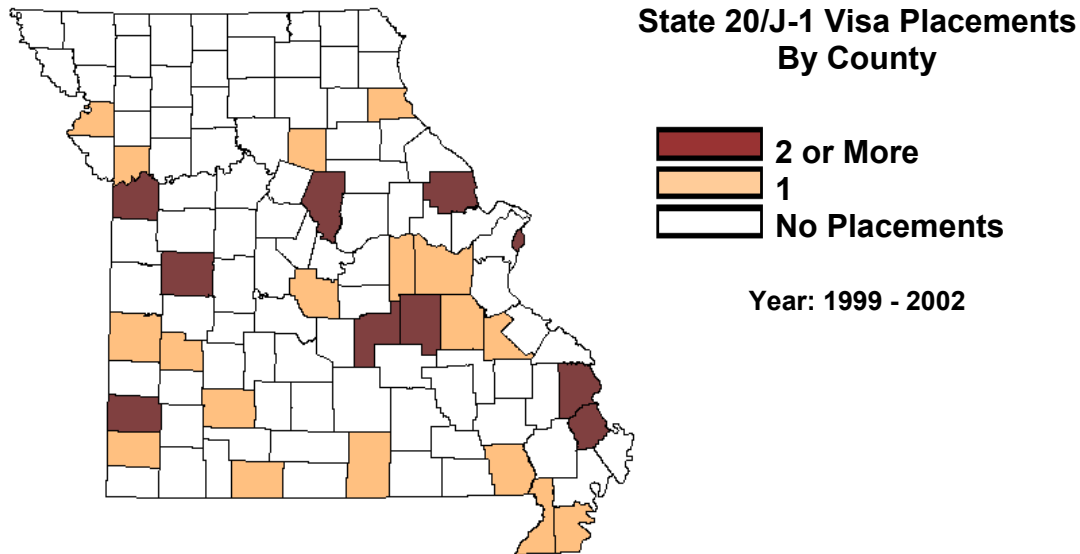
Placement Programs for Foreign Medical Graduates

Foreign medical graduates come to the United States to pursue medical specialty training. A requirement of the visa given to these physicians (J-1 Visa) is that they return to their home country for at least two years after their training is completed, before they can apply for immigration to the U.S. The U.S. Department of Agriculture initiated a program where this requirement could be waived if the physician were to work in HPSAs. For approximately five years DHSS and other state public health departments were required to provide letters of support to applicants to the USDA J-1 Visa waiver applicants who were to practice in underserved areas of their respective states. Missouri, along with several other states, provided the letters of support. However, there were no mechanisms to assure that these physicians, once placed, remained in their assigned underserved areas or even in the state. Physicians placed under the USDA program had less than 25% compliance to the three-year practice requirement and a retention rate of less than 10%.

In 1999 DHSS was given the ability, through the U.S. Department of State and the U.S. Immigration and Naturalization Services, to waive this requirement for 20 foreign physicians each year in exchange for an employment contract to practice in underserved areas for three years. Since that time, HSDU has placed 59 physicians in the state through this program. Initially the program allowed for placements of primary care physicians only. However, as of state fiscal year 2001 four of the twenty slots have been allocated for specialty physicians.

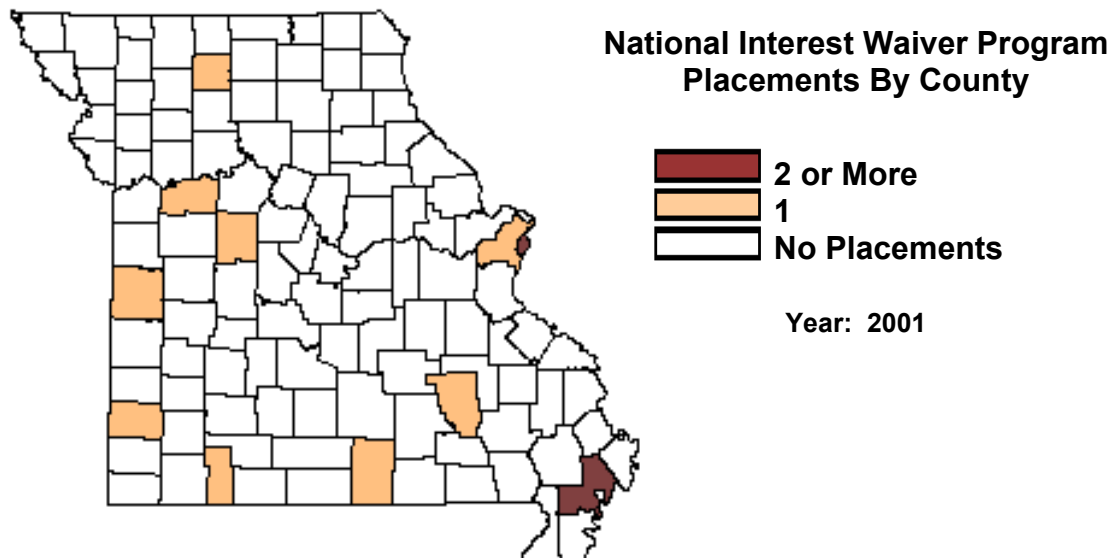
From 1999 to 2001, the program had a compliance rate of 78%. However, the majority of those who were not compliant (64%) were approved for fiscal year 2001. The compliance rate for J-1 Visa physicians in 1999 and 2000 was 90%, while the rate for 2001 was only 55%. Review of those waivers approved for 2002 will give an indication if this is the beginning of a trend or, if non-compliance for that year was an anomaly. The obligations of the physicians placed in 1999 will end in calendar year 2002, allowing for an initial analysis of retention beyond the individual's obligation.

The map below indicates the placement of J-1 Visa physicians through the State 20/J-1 Visa Program for federal fiscal years 1999 to 2002.



Starting in 2001, the DHSS has participated in the National Interest Waiver Program (NIW). The NIW was established by a provision in the November 1999 U.S. Nursing Relief Act and the interim rule to amend the Immigration and Naturalization Service regulations, published in September and effective in October of 2000. NIW waives the requirement for a Labor Certification by the federal Department of Labor and expedites the process for permanent residency. The Labor Certification is an assessment of the adequacy of the supply of a profession and the need to recruit outside the pool of US nationals.

Fourteen physicians have applied to and been approved by DHSS for participation in the NIW program. The map below shows the distribution of those 14 physicians in Missouri.



Healthy Communities Incentive Program

Scheduled for implementation in July 2002, the Healthy Communities Incentive Program (HCIP) is a program that provides payments to primary care physicians in exchange for practicing four years in an underserved area. The practitioners must agree to accept Medicaid recipients and provide a sliding fee scale to adjust fees charged to the uninsured, under 200% of poverty. The program contract will provide graduated payments over the four-year period, as indicated in the table below.

Year	1	2	3	4
Payment	\$40,000	\$30,000	\$20,000	\$10,000

Eligible practitioners include general and pediatric dentists and primary care physicians. It is anticipated that 25 dentists and 15 primary care physicians will participate in the program in the first year. The number of participants will increase each year, based on the amount remaining in the budget, to a maximum of 40 dentists and 24 physicians in the program.

There has been extensive interest in this program in the past year. The department has proposed regulations for the new program and are awaiting regulation approval and funding.

Conclusion

Two processes, the number of practitioners in the state and the number of individuals receiving health care services, can measure the impact on the recruitment, incentive and clinical development programs of the Health Systems Development Unit (HSDU). Although the ultimate goal of the work unit and the department, healthy people in healthy communities, may not show significant impact at this time, access to health care services can be measured.

The total number of physicians and advanced practice nurses now practicing in underserved areas of Missouri, due to HSDU programs, number 167 and 82 respectively. Although individual practitioners are not currently required to report encounters, we can estimate the number of individuals served. Nationally, primary care physicians have approximately 5,000 patient visits per year and 2,500 visits for advanced practice nurses. If we apply those rates to the practitioners recruited by HSDU, the estimated number of patient encounters would be 1,075,000. We can also estimate the percentage and number of those encounters that were Medicaid and uninsured. The requirements for participation in the HSDU programs are the same as those applied to the federal government for federally qualified health centers to accept Medicaid and to provide a sliding fee scale for the uninsured. The percentage of these practices that were Medicaid and uninsured in 2000 were 37% and 39%, respectively. Using those assumptions, the estimated number of Medicaid individuals who received care due to these initiatives is 397,750 and the number of uninsured is 419,250. The recruitment of foreign medical graduates through the State 20/J-1 Visa program can add another estimated 80,000 primary care patient encounters.

Another consideration is the development of community-based systems of care in PRIMO communities, where none had been before. There are approximately 14 clinical sites supported

each year, with a minimum of 70,000 total annual encounters. The addition of five dental sites adds another 15,000 patient encounters for the PRIMO sites.

The total estimated impact of the HSDU programs, in terms of patient encounters, is approximately 1,900,000.

The economic impact of the program has been two-fold as well. The practitioners represent an investment of approximately \$14,740,000. The community-based clinical development component of PRIMO was approximately \$9,000,000, largely in rural underserved areas. The total direct contribution of the HSDU programs to local economies was almost \$25,000,000, excluding the placements of the foreign medical graduates.

These data, though, are just the beginning of the overall evaluation of the HSDU programs. They are process measures that will be used to mark the programmatic progress. The outcomes sought are the reduction of disease, preventable hospitalizations and potential life lost. However, as these are goals that are generally measured in decades, it will be several more years before the efforts of Health Systems Development Unit can be measured in those terms.